

ABSTRACT OF THE DISCLOSURE

Disclosed is a routing apparatus for obtaining routing data conforming to a destination address of a packet that arrives from a line, adding the routing data
5 onto the packet, and switching the packet based upon the routing data to send the packet to a prescribed line. The routing apparatus has a main controller equipped with content addressable memories (CAMs) corresponding to respective ones of line speed. When search key data
10 with an attached line identifier is received from a line card, routing data is generated by the content addressable memory (CAM) corresponding to the line speed and the routing data is sent to the line card. The line card adds routing data of which it has been notified by
15 the main controller onto a packet and then outputs the packet. A switch to which a packet having attached routing data is input from a prescribed line card switches the packet based upon the routing data and sends the packet to another line card.

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DOCUMENT CLASSIFICATION BARCODE SHEET



Drawings

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09767302-012301

FIG. 1

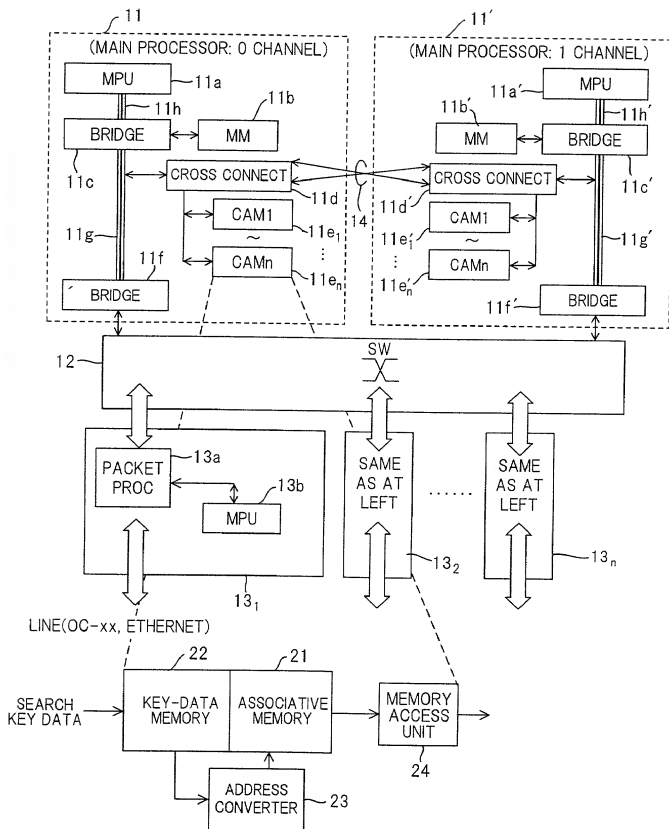


FIG. 2A

TRANSMISSION OF OC-12C PPP PACKET

ITEMS	VALUE	IP DATA FLUCTUATION	TOTAL TRANSFER TIME (μ S)
OC-12C TRANSFER TIME	1.6	1	0.36
PPP + FIXED PART OF IP HEADER (bytes)	27	2	0.37
IP DATA FLUCTUATION (bytes)	n	3	0.39
		4	0.40
TOTAL TRANSFER TIME = (n + PPP + FIXED PART OF IP) * OC-12C TRANSFER		~	~
		10	0.48
		~	~
		64	1.17
		~	~
		128	1.99
		~	~
		1024	13.52
		~	~
		1500	19.64

FIG. 2B

TRANSMISSION OF OC-192C PPP PACKET

ITEMS	VALUE	IP DATA FLUCTUATION	TOTAL TRANSFER TIME (μ S)
OC-192C TRANSFER TIME(ns)	0.1	1	0.02
PPP + FIXED PART OF IP HEADER (bytes)	27	2	0.02
IP DATA FLUCTUATION (bytes)	n	3	0.02
		4	0.02
TOTAL TRANSFER TIME = (n + PPP + FIXED PART OF IP) * OC-192C TRANSFER		~	~
		10	0.03
		~	~
		64	0.07
		~	~
		128	0.12
		~	~
		1024	0.84
		~	~
		1500	1.23

FIG. 3

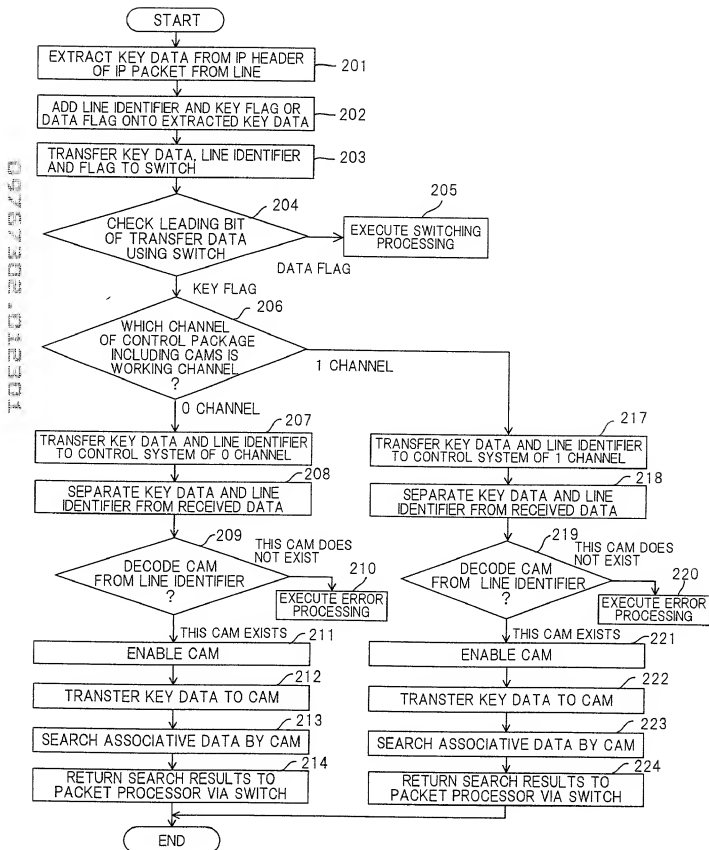


FIG. 4A

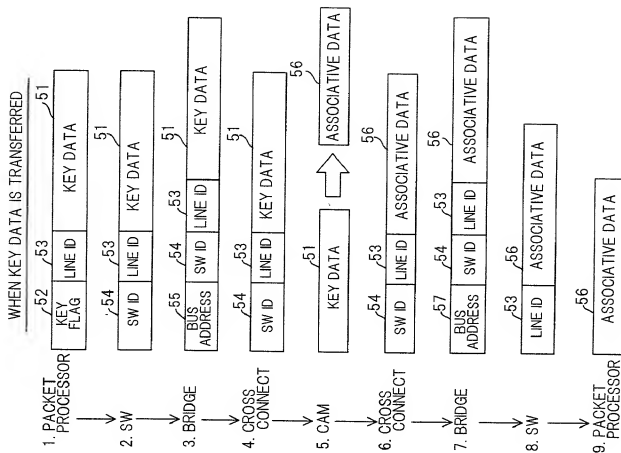


FIG. 4B

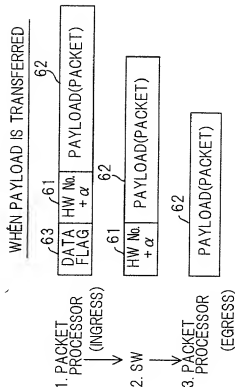


FIG. 5

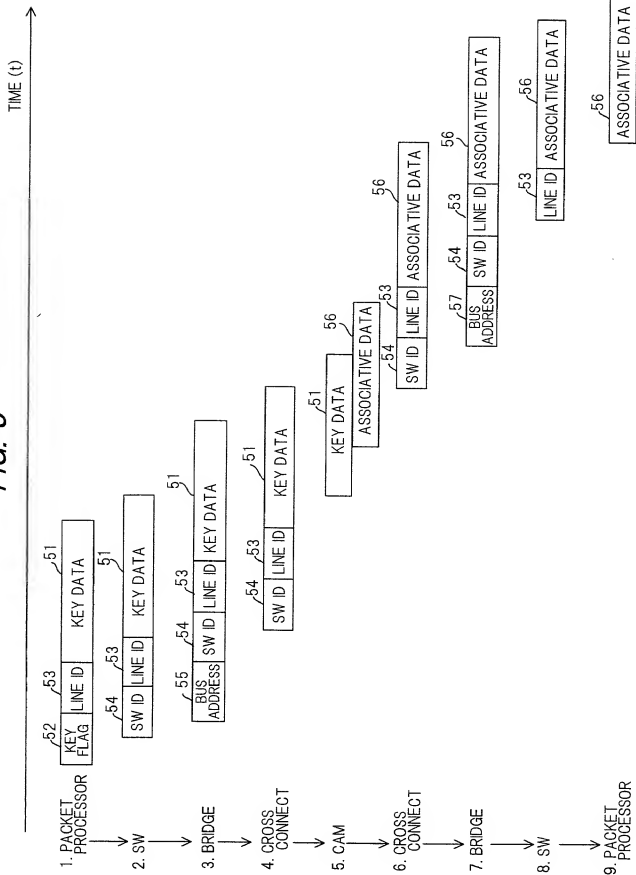


FIG. 6

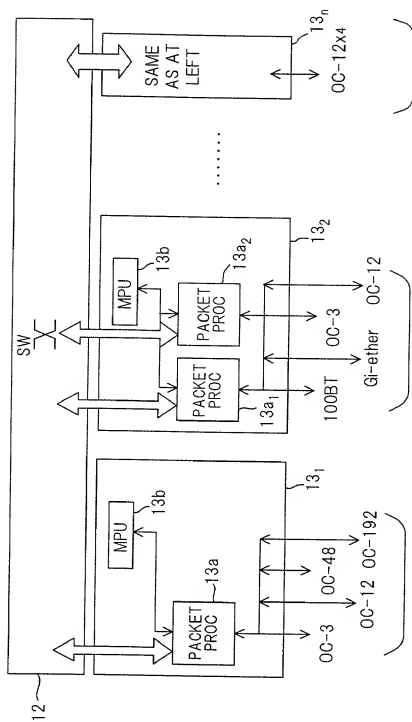


FIG. 7

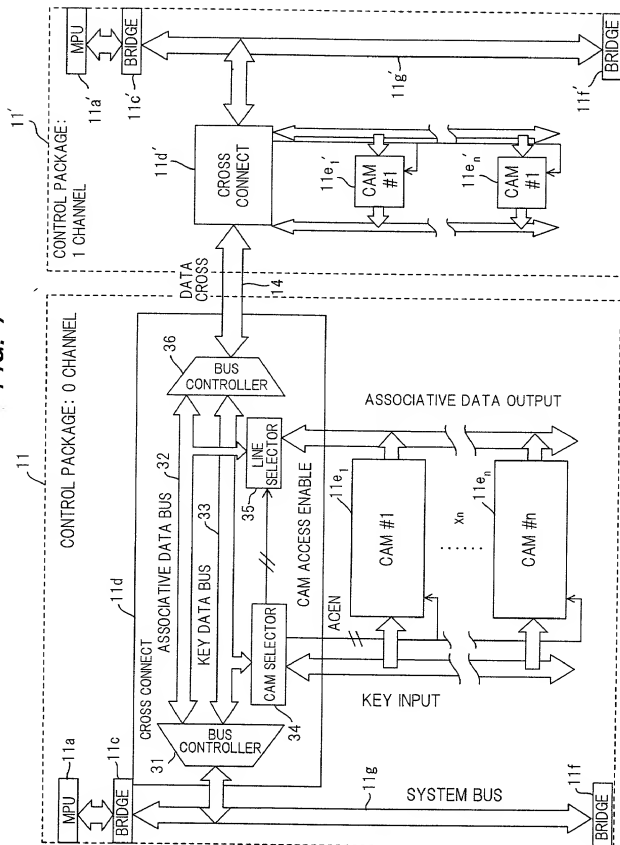
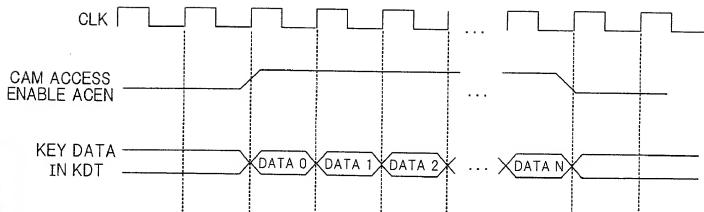


FIG. 8*FIG. 11*

RAM CELL WIDTH (bytes)		1	1
RAM CELL WORD COUNT	y	1,000	16,384
KEY DATA WIDTH (bytes)	k	4	16
ASSOCIATIVE DATA WIDTH (bytes)	r	2	2
TOTAL ENTRY COUNT		↓	↓
$e = y / (k + r)$	=	167	910

FIG. 9

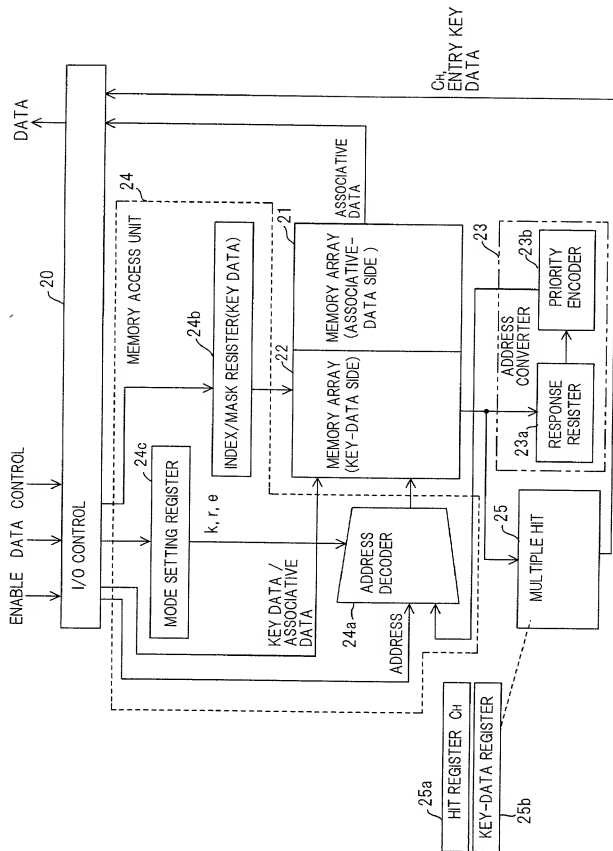


FIG. 10

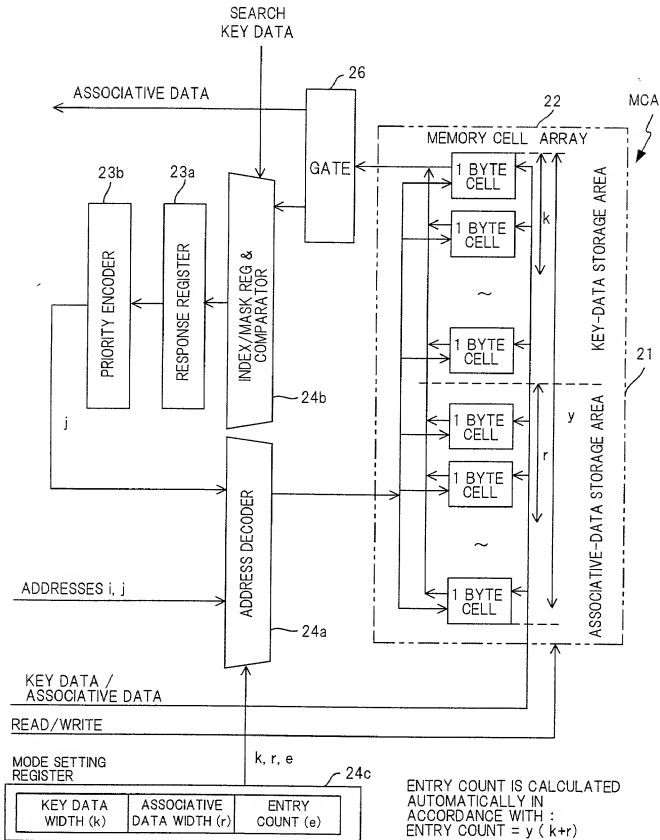


FIG. 12

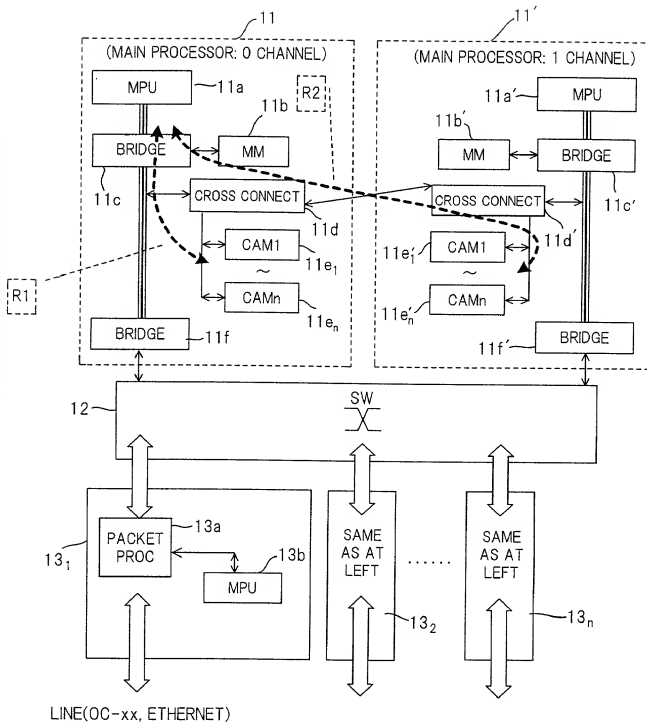
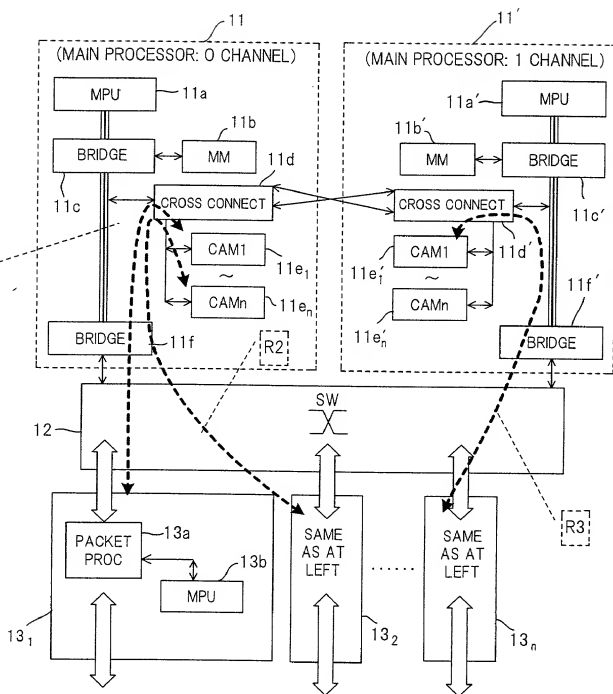
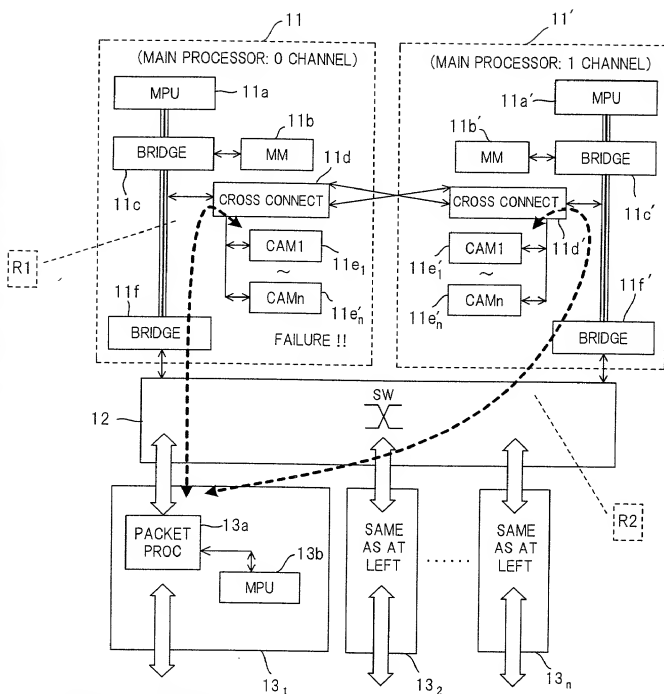


FIG. 13



LINE(OC-xx, ETHERNET)

FIG. 14



LINE(OC-xx, ETHERNET)

FIG. 15 PRIOR ART

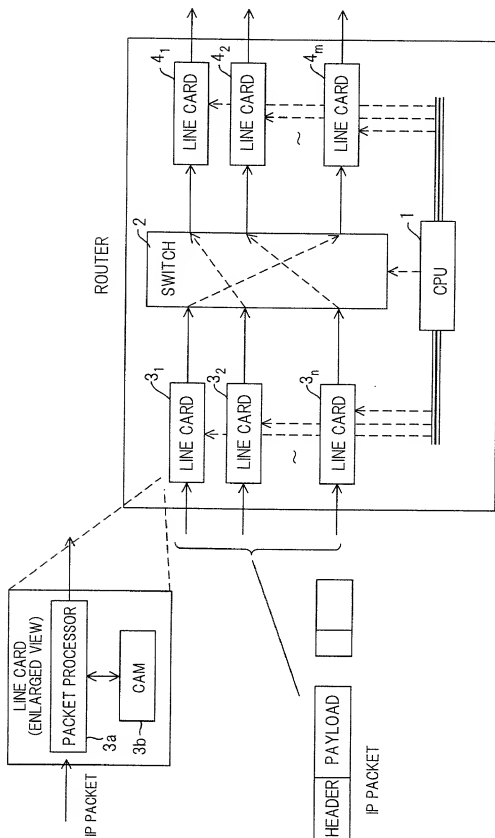


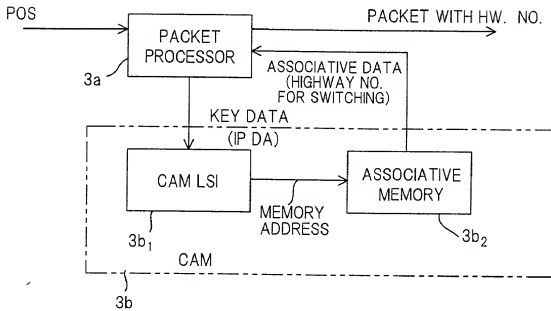
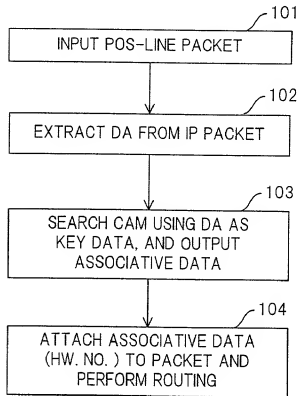
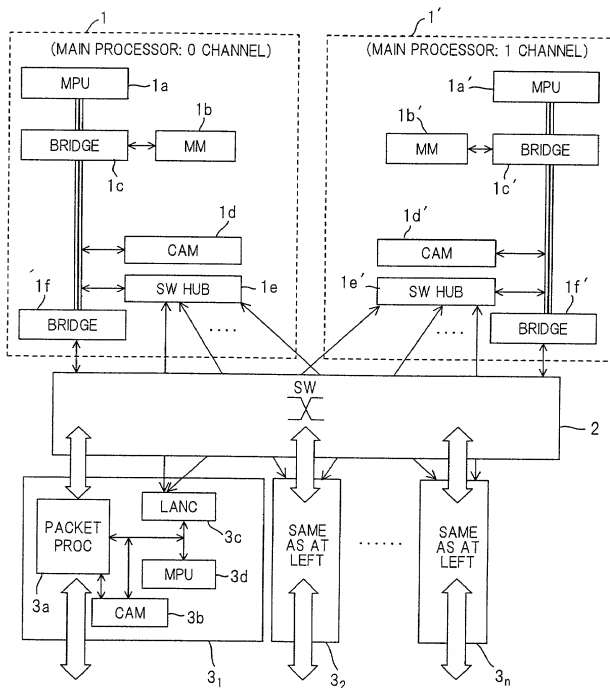
FIG. 16 PRIOR ART*FIG. 17 PRIOR ART*

FIG. 18 PRIOR ART



LINE(OC-xx, ETHERNET)

FIG. 19 PRIOR ART

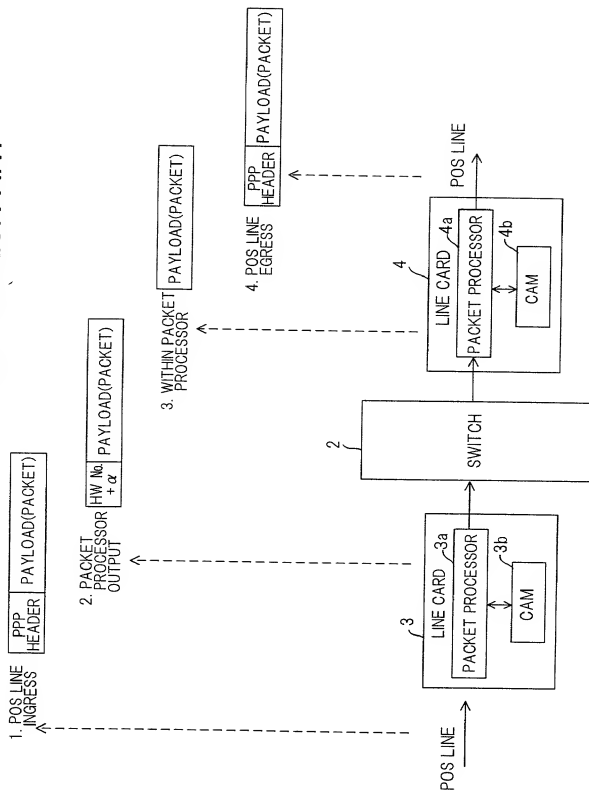
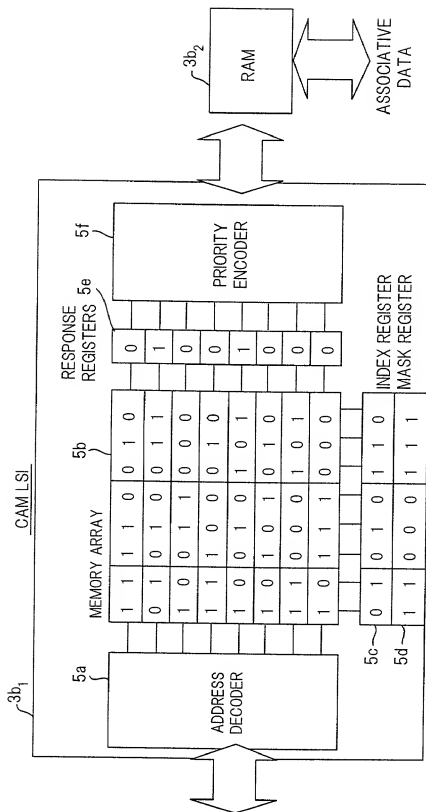


FIG. 20 PRIOR ART



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and Power of Attorney**

8

PTO/SB/106 (8-96)
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☐ was filed on _____
as United States Application Number or
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Prior Foreign Application(s)

外国での先行出願	
TOKUGAN 2000-295841	Japan
(Number)	(Country)
(番号)	(国名)
(Number)	(Country)
(番号)	(国名)

I hereby claim foreign priority under Title 35, United States Code, Section 119 (a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Priority Not Claimed

優先権主張なし

28/09/2000

(Day/Month/Year Filed)

(出願年月日)

☐

(Day/Month/Year Filed)

(出願年月日)

☐

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(現況: 特許許可済、係属中、放棄済)
(Status: Patented, Pending, Abandoned)
(現況: 特許許可済、係属中、放棄済)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith (list name and registration number)

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(Supply similar information and signature for third and subsequent
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In re the Application of: **Kazuyuki SATO, et al.**

Filed : **Concurrently herewith**

For : **ROUTING APPARATUS**

Serial No. : **Concurrently herewith**

January 23, 2001

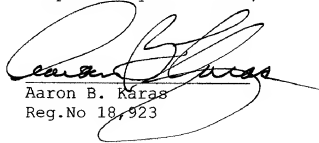
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SUB-POWER OF ATTORNEY

S I R:

I, Aaron B. Karas, Reg. No. 18,923 attorney of record
herein, do hereby grant a sub-power of attorney to Linda S.
Chan, Reg. No. 42,400, Harris A. Wolin, Reg. No. 39,432, Brian
S. Myers, Reg. No. 46,947 and Michael Markowitz, Reg. No. 30,659
to act and sign in my behalf in the above-referenced
application.

Respectfully submitted,


Aaron B. Karas
Reg.No 18,923

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